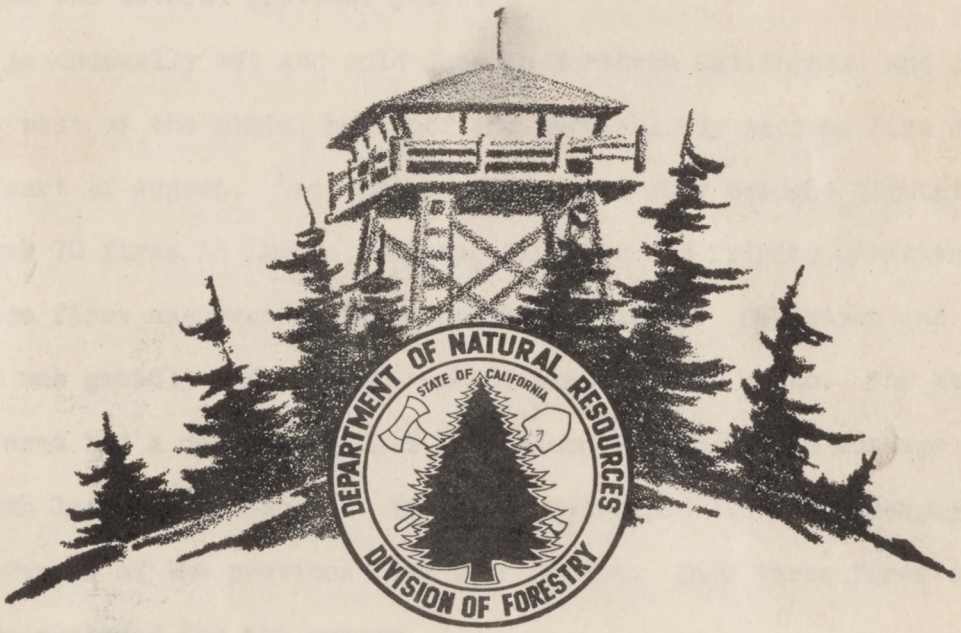
Nevada

Ranger	
Assoc. R.	
Dispatcher	
Clerk	
Ass't R. #1	
Ass't R. #2	
Ass't R. #3	
Ass't R. #4	
Clerk	
Staff	
Foreman	
File	

STATE OF CALIFORNIA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FORESTRY

1952 FOREST FIRE REPORT.



DeWitt Nelson
State Forester.

CALIFORNIA DIVISION OF FORESTRY

1952 FOREST FIRE REPORT

I. CHARACTER AND EXTENT OF THE FIRE SEASON:

The 1952 fire season throughout California was one of the less hazardous seasons. This was in contrast to the 1951 season which was one of the most hazardous of recent years.

Although the fire season extended until the middle of November with no appreciable precipitation in the North and Central parts of the State, and the whole of the State north of the Tehachapi Range had 28 days of consecutive critical fire weather from September 15 to October 14, no extremely bad "blow-ups" developed as occured in the several previous years.

An unusually wet and cold June in Northern California, and somewhat the same in the rest of the State, held off any particularly serious fire danger until the latter part of August. The months of June and July brought lightning storms, starting over 70 fires in Lassen, Shasta, Siskiyou and Trinity Counties; however, each of these fires was reached and controlled quickly. Detection and control of these fires was greatly aided by the use of airplane and radio. The Northern California area had a decrease of 21% in incidence, and 13% in acreage burned compared with last year's record. Incidence decreased 11% and acreage burned 69% below the average of the previous five year period. Only three fires of 400 acres or more were recorded for the season.

The North Coast Region had a severe lightning storm during the first part of June, but due to favorable conditions and accompanying rain, only two fires burning a total of seven acres were recorded. In general, fire conditions in the area remained favorable until the latter part of August. Relatively few campaign fires occurred until this time, although many potentially bad fires were picked up at small acreage. This was due, in part, to the aerial patrols in this area. Through the month of August, the North Coast counties had eight (8) fires of 400 acres or more, the largest being 3,240 acres.

The last two days of August saw a period of critical fire weather extending over the Labor Day holiday, with a flurry of activity centered in Lake County. Following a few days of favorable weather, the fire risk rose, and on September 12 activity shifted to Mendocino County. These critical conditions continued until October 15 without relief; the longest period of sustained high fire risk in the last five years in the North Coast area. During this period the North Coast area had 31% of their fires of the season, and burned 48% of their total acreage. On September 15, there were 33 going fires in the district, of which 25 were in Mendocino County.

Fire occurrence in the area increased 7% over last year, and was up 12% over the previous five year average. Although acreage burned increased 6% over last year it still remained 18% under the previous five years' average. There were 29 fires of 400 acres or more, the largest of which was 3,452 acres.

Perhaps worthy of mention as a reflection of our increased use of aircraft in fire control, is the drop camp that was established during the control of the Mendocino County Public Domain No. 3 fire. Located in an area of difficult access, this camp was set up and supplied by parachute with six drops over a three day period.

In the Central Sierra Region, although a period of north winds and high temperatures occurred in May, later rain abated this condition and, in general, the hazard averaged close to normal.

There were 15 fires of 400 acres or more in this area, of which 9 were in Calaveras County. Although incidence increased 10%, and acreage burned 22% over last year, acreage burned was 29% below the previous five years' average, while incidence was at the average.

With weather conditions about normal in the South Sierra region, a very good fire season was experienced. The one period of above normal activity occurred in the latter part of September when a lightning storm caused over 40 fires burning about 1,200 acres. For the first time in several seasons overhead was requested from an

adjacent district due to many of the local men being absent and in the North Coast area. Man-caused fires of the type normally expected during the hunting seasons on both the east and west sides of the valley fortunately created no problem.

Fire incidence decreased 18% below last year and 10% below the previous five years' average. Acreage burned was 84% under last year and was also 84% below the previous five years' average. The largest fire this season in the South Sierra region was 400 acres.

Fire occurrence in the South Coastal area was about the same as last year, with a 1% increase in incidence and a 6% decrease in acreage. Incidence was 5% below the previous five years' average, while acreage was 15% above the average due to several fires burning large acreages. Conditions were generally normal in this area, although there were a number of high hazard days in July and August. Two serious fires occurred in early October, one burning 7,500 acres and the other 2,400 acres. Inasmuch as both were burning at the same time, the forces in this area were hard pressed for a time.

There were 12 fires of 400 acres or more in the South Coast District, the largest of these being 7,500 acres.

Southern California had the heaviest rainfall of many years preceding the 1952 fire season. This extended into June. Although there were periods of high fire hazard in July, August and September, appreciable amounts of rainfall in many areas the latter part of July, and again late in September, acted to lower the fire danger appreciably in most sections of the district. The month of October was the driest on record. With high temperatures and low humidity, the fire danger was much higher than is usually experienced during the autumn months. Fire season was terminated November 30 after several storms beginning November 15.

In spite of the periods of high hazard, the area had an excellent fire season; 304 fires burned only 5,234 acres. This is a 23% increase in number of fires over last year, but a 63% decrease in acreage burned. In comparison with the previous five years' average, incidence decreased 8% and acreage burned 85%. There were only four fires of 400 acres or more, of which the largest was 750 acres.

Although fires in this area were not unduly large this year they were extremely unpredictable because of the turbulent conditions that existed, as well as the heavy vegetation covering the area due to the heavy rainfall.

STATEWIDE SUMMARY

Fire weather conditions in all of the State north of the Tehachapis did not become extremely acute until the end of August. This moderated somewhat after Labor Day, but the period from September 15 to October 14, a total of 28 days, was one of consecutive extreme and critical fire weather conditions. The period of September 15 to the end of the month was the warmest experienced since 1897, or for a 55 year period. An unusually prolonged dry spell extended the fire season in the five Northern districts until November 15. As a whole the fire danger was somewhat below normal in Southern California during 1952.

In the area of State direct protection responsibility (Zone I and 2), fire occurrence was about the same as last year and near the previous five years' average. Lightning occurrence was less than last year. Acreage burned was 16% below last year and 41% below the previous five years' average. In acreage burned, 1952 was the best year since 1940 - the largest fire in the State was only 7,500 acres.

The North Coast Region continued to lead the State in both number of fires and acreage burned.

The following tables are presented for comparative purposes.

1952

Forest Fires - Zones I and 2
State Direct Protection Area

Compared with 1951

		Occurrence	Acreage	Damage
I.	North Coast	+ 7%	+ 6%	+ 121%
II.	Northern District	- 21	- 13	- 49
III.	Sacramento	+ 10	+ 22	- 4
IV.	San Joaquin	- 18	- 84	- 38
V.	South Coast	+ 1	- 6	- 17
VI.	Southern District	+ 23	- 63	- 10
	STATEWIDE	+ 1	- 16	+ 13

Compared with 1947-51 Average

I.	North Coast	+ 12%	- 18%	+ 14%
II.	Northern District	- 11	- 69	- 78
III.	Sacramento	Even	- 29	- 24
IV.	San Joaquin	- 10	- 84	- 55
V.	South Coast	- 5	+ 15	+ 14
VI.	Southern District	- 8	- 85	+ 45
	STATEWIDE	- 1	- 41	- 26

Annual Forest Fire Statistics

Year	Direct Protection - Zones I & 2		Clarke-McNary Areas	
	No. Fires	Burned Acreage	No. Fires	Burned Acreage
1945	2,512	505,221	2,730	510,316
1946	2,643	234,879	2,830	204,823
1947	2,473	256,472	2,669	202,318
1948	1,973	133,223	2,134	124,206
1949	2,608	132,253	2,726	117,020
1950	2,264	303,393	2,556	270,150
1951	2,159	148,360	2,439	137,851
1952	2,263	120,974	2,422	83,967

All figures in the previous section are for the Zone I and 2 areas of direct State protection responsibility except as noted.

2. PROGRESS IN EXTENDING PROTECTION TO NEW AREAS AND ESTABLISHMENT OF BETTER PROTECTION IN OLD AREAS.

New Areas:

No new areas were added to State protection during 1952.

Old Areas:

Detection:

As was mentioned in last year's report, Mikes Peak Lookout in Stanislaus County was replaced by aerial patrol in the 1952-53 budget. This flight is scheduled for periods of high fire danger.

The Lone Pine Lookout adjustment in Butte County is still under consideration. A survey is now under way of the lookout pattern of eastern Shasta, Tehama and Butte Counties. This will measure present value of each lookout, possible new additions, etc., taking into consideration also possible future pay protection boundary changes.

An informal and unofficial Cooperative Air Patrol was begun this year in the Shasta County area. Payment of plane rental has been alternated between the State and lumber companies for use during periods of high hazard or on going fires, with the Division of Forestry furnishing the observer and communication facilities on all flights.

1950 Fire Plan Addition:

The patrolman for the Boonville area of southwestern Mendocino County was approved this year, raising the number of patrolmen in the North Coast Area to six, and in the State to 14.

The Flynn Springs station in San Diego County was placed in operation for the first time this year. Set up as a 4-man crew, the foreman position was received this year, and the crewmen were transferred from the La Mesa Station.

Fire Weather:

During 1952, two additional Fire Risk Indexes were developed for Division of Forestry usage by R.T. Hanna, Western Fire-Weather Coordinator. One of these is for the San Joaquin District and the other for the use of San Benito, San Luis Obispo, and Monterey Counties of the South Coast district. This brings to five the number of Fire Risk Indexes now in use. The other index systems in use are in the North Coast area, Shasta area, and Yuba-Placer-Nevada Counties. Analysis of index figures with fire occurrence after one or two years' usage may result in some small revision of these systems. However, by and large, their high degree of accuracy and correlation with fire occurrence has demonstrated that Mr. Hanna and his staff have, through much effort and research, developed another valuable tool for our use. Work is continuing on the development of other index systems for several needed areas.

There is set up for the 1953 fire season an experimental project in the dispersal of potential lightning storms through the use of aircraft. Although the initial groundwork was laid on this project in 1952, due to unsatisfactory weather conditions the experiment was not carried out. Inasmuch as lightning strikes cause from 5 to 15% of our Zone I and 2 fires, the results of this experiment are awaited with much interest.

3. IMPORTANT CHANGES IN PROTECTION PLANS, ADDITIONS OF PERMANENT PERSONNEL, ETC.

1950 Fire Plan:

The Personnel and Improvement sections of the 1950 Fire Plan were approved, printed, and distributed to the field during the middle of 1952.

The Personnel Plan lists each Ranger Unit Headquarters and its planned personnel allotment; each Assistant Ranger District and the stations, lookouts, and crew sizes at those locations within the districts. This will be a solid base for future budgeting and planning for the suppression organization.

The Improvement Plan lists for each headquarters and suppression station location all buildings and improvements with present and planned status or size. This will prove a valuable budgetary reference for Capital Outlay and Minor Improvements budgets.

Fire Control Training:

The need for training material on basic fire fighting methods written in simple understandable language has long been recognized by both the State and the U.S. Forest Service. During the current National emergency, it became apparent that in the event of all out war, agencies engaged in fighting wild land fires would be taxed beyond their capacities if requested to lend assistance to metropolitan areas and still provide adequate protection to the wildlands. The training of large numbers of volunteers and cooperators was handicapped for lack of material that a layman would understand. Logging companies and Labor Unions in the lumbering areas expressed the desire for some such material that could be passed on as a guide to individuals and thus encourage self-training and industry self-protection. Through the joint efforts of the State and the U.S. Forest Service, with assistance from members of National Park Service, California Forest & Range Experiment Station, County Forestry Departments, and the University of California, the manual "Forest Fire Fighting Fundamentals" was produced and distributed. It is felt that this represents a step forward when these agencies can get together on the best fire fighting practices and prepare material which will be used

jointly.

Tentative plans have been made, and an outline script prepared, for a training film on initial attack methods and procedures. This will supplement the training film, "Campaign Fires," depicting large fire organization, which was produced recently.

Forest Work Camps:

During 1952, site acquisition has been progressing for another Adult Forestry Honor Camp to be located at Morena in southeastern San Diego County. This will raise to four the number of these camps in the southern California district, and to nine the total camps in the State.

California Youth Authority Camps remain at three, with four Spike camps.

Personnel Changes:

In accordance with the recommendations of the 1950 Fire Plan, an additional Assistant Ranger position was added in Mendocino County to administer the Point Arena area in the southwest corner of the county.

Two new classes were established during 1952; the classes of Senior Forest Technician and Forestry Work Project Foreman. Senior Forest Technician is a supervisory technician position at the district and Sacramento levels. Five of these positions were established in a reclassification from Forest Technician.

Forestry Work Project Foreman positions will exist only in the California Department of Corrections and California Youth Authority Forestry Work Camps, replacing all Forest Firefighter Foreman and Forest Fire Truck Driver positions now being filled there. This position was created in recognition of the different responsibilities and knowledge required of men working with California Department of Corrections and California Youth Authority inmates as compared with those leading regular fire crews.

In July, the majority of State employees received a 5% increase in salary. In order to meet outside salary levels, the class of Forest Fire Truck Driver was given a 10% increase, but his salary range was decreased from 5 to 4

annual steps, keeping the pay differential in the top salary step the same between Foremen and Truck Drivers.

For comparative purposes with other States, the Division of Forestry top (after 4 years of service) pay grades now are :

DIVISION OF FORESTRY PERSONNEL
All Functions.

No.	Title	Monthly Salary
1	State Forester	$ 1,000
1	Chief Deputy State Forester	821
10	Deputy State Foresters	745
6	Assistant Deputy State Foresters	613
16	State Forest Rangers, Grade II	556
19	State Forest Rangers, Grade I	505
42	Associate State Forest Rangers	458
107	Assistant State Forest Rangers	415
12	Forestry Trainees (4-Step Range)	325
1	Forest Manager	745
5	Senior Forest Technicians	556
20	Forest Technicians	505
11	Assistant Forest Technicians	415
41	Forest Fire Dispatchers	376
2	Supervisors of Conservation Education	584
6	Forest Fire Prevention Officers	505
12	Forestry Work Project Supervisors	458
72	Forestry Work Project Foremen	376
300	Forest Firefighter Foremen	341
254	Forest Fire Truck Drivers (4-Step Range)	310
80	Forestry Equipment Operators	358
1,262	Forest Firefighters	255
100	Forest Fire Lookouts	268
190	Camp Crew Cooks	281

The classes beginning with and below the Forestry Work Project Foremen are called the "Fire Crew Group". The numbers represent those employed at the peak of the fire season. These classes receive a 10% pay increase through the fire season as a standby and overtime bonus in lieu of straight hourly overtime. Other classes receive 10%, 5%, or nothing for overtime as the title approaches the higher executive classes.

There were two deaths last year in the firefighter class. Both occurred in Southern California and were due to suffocation and burning while on fire control activities.

A cook in the North Coast Region also died while on duty, due to a heart attack.

An initial study was undertaken this year to determine primary accident causes and employee classes involved in order to determine what remedial safety training measures might be needed. This is part of a statewide coordinated safety program.

4. FIRE EQUIPMENT AND IMPROVEMENTS:

A. EQUIPMENT:

At the end of 1952 the Division had in operation the following equipment:

Transportation		Firefighting Equipment		Construction and Maintenance Equipment	
Sedans	85	Pumpers		Maintainers	19
Station Wagons	10	Firetrucks	137	Dump Trucks	18
Panels	16	Crewtrucks	236	Cement Mixers	24
Pickups	207	Pickup Pumpers	25	Compressor Trucks	6
Stakesides	111			Compressor Trailers	10
Jeeps	3	Bulldozers		Power Wagons	4
		Large	38	Miscellaneous	12
		Medium	20		
		Transports			
		Large	29		
		Medium	8	TOTAL	1,069
		Misc. Equipment	51		

All of the firetrucks in service were of the conventional type drive. Of the crewtrucks eleven were of large four wheel drive type, forty-five power wagon type, and the remaining one hundred seventy-one conventional type.

During 1952 the following vehicles were put in service:

1 Sedan which replaced a unit burned on a fire.
6 Replacement standard 4-speed pickups.
2 Additional standard 4-speed pickups.
7 Replacement 4-wheel drive pickups.
5 Additional 4-wheel drive pickups.
8 Medium transports, 5 were additional and 3 replacement.
5 Medium tractors, all replacement.
23 Replacement conventional crewtrucks.
9 Large 4-wheel drive replacement crewtrucks.
2 Additional power wagon type crewtrucks
2 Additional miscellaneous units, one a Goble disc, and the other a government surplus trailer which was used for sleeping quarters for C.Y.A. personnel.

During 1952 the Division conducted numerous tests on automotive equipment. This started early in the year with approximately two weeks cooperative tests in Southern California in connection with the U.S. Forest Service Arcadia Development Center. Standard crewtruck and newly developed 4-wheel drive crewtrucks were tested. Early in the summer the Division established its own test course in the

Mother Lode District. Two separate roads were utilized, one a 4½ mile climb on an unoiled graded dirt road, the average grade being a little in excess of 12%. The other course consisted of approximately 23 miles of typical foothill type roads utilized by the Division. These roads included State Highways, surfaced County roads, graded County roads, truck trails and substandard truck trails. This course consisted of both uphill and downhill grades. Numerous trucks have been tested for performance and proper loading over these courses. Additional testing was conducted on off-highway use on small 4-wheel drive equipment as well as the larger equipment.

During the 1952 fire season The Oliver Corporation made available to the Division for experimental use, a small 23 H.P. crawler type tractor equipped with an Anderson fire plow. After some development work and alterations the unit was found to be reasonably satisfactory in fire line construction, and it is planned to secure three of these units for actual field use during the 1953 fire season. Because of difficulties experienced in the past during the buildup of our fire trucks and crewtrucks, the Division in 1952 inaugurated a pilot model construction program. An attempt was made to construct three new types of truck: Pilot Model #1 - a firetruck with a 250 GPM pump, 500 gallon water tank and 4-man crew capacity; Pilot Model #2 - a light 4-wheel drive crewtruck with a small demountable and portable pump, a removable 100 gallon water tank and crew capacity of 10 to 14 men. With the tank removed this truck can be utilized for winter work crews. The truck is equipped with a winch, canopy top, and brush guard protection. The third pilot model was also 4-wheel drive type, medium sized water tank and approximately 60 GPM pump with a crew carrying capacity of five men.

Field personnel participated in a review of pilot models 2 and 3. Pilot Model #2 was acceptable and will become a type of crewtruck to be used by the Division. Pilot model #3 has not been acceptable and work will continue next year. Construction is not completed on Pilot Model #1. It is hoped through the use of this pilot model buildup program that a better piece of equipment can be produced and the eventual cost of construction be reduced.

B. IMPROVEMENTS:

I. Structures.

A. Equipment Buildings: Thirteen (13) of these structures have been constructed, providing needed storage for seventyfour vehicles.

B. Barracks: Four (4) tent or temporary sleeping quarters have been replaced with this standard unit.

C. Barracks and Messhall (Combination): Nine (9) of these standard units were constructed to replace tent or temporary sleeping and mess quarters.

D. Kitchen and Messhall: Two (2) tent or temporary kitchens have been replaced with this standard unit.

E. Fire Control Station: Two (2) of these units have been constructed to replace tent camps. This is a complete station to house small crews, combining under one roof sleeping, mess and equipment storage.

F. Gas and Oil Houses: Two (2) of these units have been constructed where bulk storage of gasoline and oil will result in economy.

G. Residences: Five (5) of these have been constructed in locations where housing is difficult to obtain or for personnel required to be on duty twentyfour hours per day.

H. Residence Garages: Four (4) two-stall units have been constructed, one stall to house State-owned vehicles assigned to personnel living in State residences.

I. Lookout Tower: One (1) of these standard units has been constructed to replace a lookout tower destroyed by fire.

J. Assembly Building: One (1) of these units was constructed for the use of CYA inmates as a school, recreation and chapel building.

K. Radio Repeater Vault and Antenna Tower: One (1) of several of these units now under construction was completed. These are designed to provide housing and antenna space for other agencies as well as our own radio repeater equipment.

L. Walk-in Refrigerator: One (1) of these standard units has been constructed at a county headquarters to provide bulk refrigerative storage.

M. Structures Rebuilt: One (1) county headquarters office and one (1) ranger's residence has been completely rebuilt, bringing to standard size and modern design antiquated buildings.

B. IMPROVEMENTS: (Cont'd)

II. Maintenance and Improvement:

With this Division, this is a big program and is accomplished mostly during the winter months by Forestry personnel with the aid of Forestry work camp personnel.

In addition to approximately 1300 structures, their sanitary and water systems, we maintain 2252 miles of telephone lines, 3248 miles of Forestry roads, and eighty-seven bridges.

Due to this heavy maintenance program, much thought is given to the selection of materials used in the construction of our buildings so that the finished structures will require the minimum of maintenance during their existence.

Much economy is being realized in our maintenance program by the use of shingles, treated telephone and power poles, treated fence posts, pumice building block and cabinet work being manufactured with the aid of our Forestry work camp personnel.

III. Telephones:

More and more of our telephone lines are being changed from grounded lines to metallic lines, and the Division is responsible for the maintenance of approximately 2252 miles of telephone lines throughout the State. The Division is using commercial facilities to a great extent, using telephone lines which we otherwise would have to build and maintain.

IV. Roads:

A few roads and firebreaks have been built during the year and the mileage now stands at approximately 3248 miles.

V. Mapping:

During 1952, the Division has completed and sent to the districts six (6) new county maps. In addition to compiling county maps, the engineering section has also made numerous charts and smaller maps.

VI. Engineering and Planning:

Much has been accomplished under this category in 1952 and much time has been given to the standardization of plans, utilization of new and longer-lasting products in our structural design, and better planning of next year's building program.

C. RADIO:

In the 1952-53 fiscal year the State Division of Forestry increased its radio equipment by type in the following numbers :

Mobile	108	Units	2 Channel	transmitting
Handie Talkies	43	"	1 "	"
10-watt Portables	38	"	2 "	"
250-watt Base	1	"	2 "	"
250-watt Mobile Relay	1	"	1 "	"

With the addition of the above units the Forestry radio system now consists of the following numbers:

Mobile	700	Units	
Handie Talkies	438	"	
Base Stations	38	"	50 watt
Remote Control	45	"	
10-watt Portable	109	"	
Trailer mounted Base	6	"	50 watt
Dispatch Receivers	54	"	
Mobile Relay	33	"	50 and 250 watt
Power Plants Auxiliary Standby	68	"	2500 - 5000 and 10,000 KW.

We have experienced one year with the radio maintenance service provided by another State Department. The service rendered has in most instances been fairly satisfactory, but has not yet reached the preventative goal desired. The cost, however, has been reduced from the $180.00 unit year to $150.00 per unit year.

5. FIRE PREVENTION:

Complete utilization of all available media, resources, and manpower in a cooperative program of forest fire prevention in California is necessary, if losses from forest fires are to be minimized. Continued progress toward that goal was notable during 1952.

For the purpose of this report, Forest Fire Prevention will be divided into three parts - 1. activities of field personnel of the Division; 2. activities of the broad cooperative program founded around the California Fire Prevention Committee; and 3. cooperative educational program in Southern California.

I. ACTIVITY REPORT OF DIVISION OF FORESTRY PERSONNEL:

A. Newspaper Publicity.
   1. Made 6,710 contacts with the press which resulted in editorials, fire news, and other prevention copy.
   2. Made 1,458 news releases.
   3. Made 673 contacts with press which resulted in 421 dropins and 172 sponsored advertisements.

B. Radio Publicity.
   1. Participated in 172 radio presentations (talks, interviews, and programs).
   2. Presented material for 543 short announcements.

C. Visual Education.
   1. Distributed 1,209,675 pieces of printed material including posters, leaflets, pamphlets, stickers, etc.
   2. Arranged for 5,920 displays in store windows, theaters, and public buildings.
   3. Made 1,800 postings on Division of Forestry 4' x 8' highway right-of-way roadside signs.
   4. Displayed 849 floats and/or equipment which was viewed by 530,864 people.
   5. Made 614 exhibits at fairs which were viewed by 1,031,233.

D. Group Contacts.
   1. Presented 999 programs with and without films which were attended by 50,510 adults.
   2. Presented 1,257 programs with and without films attended by 111,980 children.

5. FIRE PREVENTION: (Cont'd)

E. Training.
1. Held 2,465 training programs with an attendance of 11,611.

F. Personal Contacts.
1. Made 187,912 personal contacts at fair booths and equipment exhibits.

2. Made 99,310 contacts during normal work day.

3. Made 56,467 personal contacts during 24,432 man-hours spent on patrol duty.

G. Permits.
1. Issued 7,270 regular burning permits.

2. Issued 623 range improvement permits.

H. Inspections.
1. Sawmills - 1,017.

2. Other mills - 161.

3. Logging operations area - 1,401.

4. Industrial areas (other) - 1,236.

5. Dumps (public and private) - 1,177.

6. Public areas (recreational, school, etc.) - 1,195.

7. Residential areas (farm and mountain) - 25,336.

8. Mechanical equipment (farm, logging, construction, etc.) - 3,252

I. Hazard Reduction.

a. Rights-of-Way
1. State and county highways (disced, burned, or treated - 1,653 miles.

2. State and county highways (disced, burned, or treated in cooperation with others) - 895 miles.

3. State and county highways (disced, burned, or treated by others) - 5,496 miles.

4. Railroads fireproofed (cooperative) - 1,465 miles.

b. Industrial Areas.
1. Cleanup compliance at sawmills and other mills - 763.

2. Cleanup compliance in logging and other areas - 1,692.

5. FIRE PREVENTION: (Cont'd)

I. Hazard Reduction (Continued)

(c) Other Areas.
1. Cleanup and fireproofing of dumps - 583.

2. Public areas - 24,178.

II. INVENTORY OF EXISTING OR POTENTIAL HAZARDS:

A. Roadside.
1. State highways - 3,746 miles.

2. County highways - 14,967 miles.

B. Industrial Areas.
1. Sawmills - 771

2. Other mills - 230

3. Logging operational areas - 962

4. Miscellaneous industrial areas - 4,907

C. Other Areas.
1. Dumps (public and private) - 1,216.

2. Recreational - 814.

3. Commercial - 891.

4. Schools - 1,029.

5. Rural - mountain dwellings - 182,225.

6. Ranch - farm properties - 54,865.

A 16 mm motion picture library maintained at the State Forester's Office makes available, upon schedule, various films for use by the field personnel when presenting programs to adult and children groups, also for use in booths and other displays. This library has been enlarged and improved over a period of years and use of films by the field has increased and improved as a result of availability of films and experience through their use has developed.

The Division purchased a Sales-O-Matic (automatic sound electronic equipment) and a life-size model of the Forest Fire Prevention Bear "Smokey" which we designate as "Smokey Bear". The success of "Smokey-Bear" was assured from the first and was used mainly at county fairs throughout the State - limit in use being only

by availability.

Field personnel cooperated with many local organizations in the development of Forest Fire Prevention activities. Cooperation with local U.S. Forest Service personnel in prevention, as well as suppression action, is fast becoming a rule rather than the exception.

The use of patrolmen in addition to preventing fires through the reduction of hazards develops a better understanding of the problems involved and results in other fire prevention educational cooperation.

In three counties timber owners cooperated with the Division for the use of airplanes on patrol, the Division furnishing observers and radio communications. While the patrol had for its primary purpose detection of fires, there is no doubt better fire prevention was also a direct result.

The number of miles of highway treated, burned, or otherwise fireproofed gives evidence that state and county highway officials cooperate and material benefits were derived. The same can be said, and is also evidenced in a like manner, with railroad officials.

Materials were provided for limited experiments during the winter months with chemicals for use in reducing highway hazards. Such experiments will be made at different elevations, in different widths, type of cover, and soil, in order to develop an effective method within reasonable economic limitations.

Even though the broad coverage by radio, motion picture, and press media will be reported elsewhere in this report, mention from a local basis is necessary. As indicated in the statistical report, a number of editorials, news items, dropins, etc. are indicated, but in addition to those a large number of special articles, features, and other contributions by the press have been in evidence. Local theaters used all available materials and have expressed willingness to use more when available. Local radio stations devoted much time to the use of spot announcements, interviews, and other forest fire prevention programs, all of which was done on a cooperative basis without cost cooperatively with the U.S. Forest Service and Division personnel.

Forest Fire Prevention poster picture or essay contests were developed through the schools in several counties. The result was active participation by large numbers of students and a wide variety of ideas and forest fire prevention developed.

III. ACCOMPLISHMENTS - STATEWIDE EDUCATIONAL PROGRAM:

On April 18, 1952, the California Fire Prevention Committee met in joint session with the State Board of Forestry in Sacramento. The theme of the meeting was "Dependence of Basic Natural Resources Upon the Prevention of Forest Fires." That meeting was well attended, and effective coverage for the need of prevention and plans for future action was developed by the members. Awards for outstanding public service in the field of Forest Fire Prevention were at that time presented by the Committee to the Southern California Edison Company and the Redwood Region Conservation Association.

The California Fire Prevention Committee was formulated in 1947 and spearheaded by the State Forester and the U.S. Forest Service Regional Forester after realization that the public agencies could not alone effect a successful program in Forest Fire Prevention Education. The Committee has a membership of over 200 persons representing industry, associations, clubs, groups, governmental, and other agencies. It is through participation by those members, organizations which they represent, and people with whom they have influence, that the broad educational Forest Fire Prevention program has developed and progressed.

During the year 2,655,000 Forest Fire Prevention posters, leaflets, stickers, blotters, etc., were effectively distributed to or by members of the Committee in Northern California. (This distribution is in addition to materials distributed by field personnel throughout the State and those produced and distributed by individual cooperators.) Space and difficulty in obtaining complete records will not permit a detailed report of all activities in statewide educational activities, but the following general statements with highlights of

individual and cooperative accomplishments will illustrate the scope of the program.

RADIO.

The radio stations of Northern California again contributed a great amount of time to Forest Fire Prevention as a public service. A distribution point for materials to stations in this section, similar to that in Southern California, is not available. It then has become necessary to depend to a large extent upon the interest of the individual stations in Forest Fire Prevention in order that the program be carried out to the extent now evident to all. There were, however, as indicated in the report above, a great number of personal contacts by members of Division of Forestry personnel with radio stations. It must be realized that an estimate of radio broadcasts where Forest Fire Prevention copy was used would be a wild guess. There has been, however, broad coverage by radio and numerous radio advertisers who devoted time on their sponsored programs to prevention. We feel that we have had exceptionally good coverage by radio and that all who are interested in Forest Fire Prevention owe a vote of thanks and appreciation to the stations and their management.

TELEVISION.

The effect of the new, but ever growing, popular medium of television in San Francisco, which uses sponsored announcements, trailers, short pictures, live programs, along with other educational materials, was broad coverage in Forest Fire Prevention. Television personnel and management interest is evident and growing. The U.S. Forest Service and the California Division of Forestry have provided trailers and short pictures for their use, but additional experimentation and development of ideas to obtain the maximum results from this medium is clearly necessary.

PRESS.

It is again impossible to make a guess about the number of newspapers which devoted space to Forest Fire Prevention education through dropins, cartoons, editorials, news items, feature pages, selected advertisements, and other means.

Here again, advertisers paid for space including fire prevention copy in the regular advertisements and otherwise contributed to the program through the use of the press. Many hundreds of house organs, news letters, personnel bulletins, maps, guides, time tables, and other publications used prevention copy as a means to put over the educational program.

MOTION PICTURES.

Trailers were produced by the Division, usually about thirty seconds in length, and copies were delivered to Fox West Coast Theaters, who in turn used the trailers throughout their chain at no cost to the Division. Additional coverage will be made in this report on the development of trailers and the contributions made by the motion picture theaters. As mentioned above, the 16 mm motion picture library that has been established in the Sacramento Office obtained additional films and in general improved the service to the field.

SCHOOLS.

Perhaps the greatest strides for the Forest Fire Prevention program have been made in and by the California public schools. Administrators, teachers, and students have developed an interest and active program with intangible effects beyond estimation. Public agencies have furnished manpower to present hundreds of programs with talks, demonstrations, motion pictures, field trips, and by other means in the schools. Organizational clubs, utilities, industries, and individuals have provided materials and in some instances financial support to school participation.

PRINTED MATERIALS.

We have reported on the printed materials which have been supplied and distributed by the protection agencies, but in addition to those, a large number of posters, window displays, telephone booth cards, window cards, restaurant slips, bookmatches, copy on utility bills, leaflets, and other materials have been printed with Forest Fire Prevention copy and distributed by many cooperators. The use of copy with metering stamps has increased in great numbers during the year, a great

part of which has been made possible through the cooperation of the manufacturer and distributor of the metering machine.

COOPERATION.

There is no question about the desire of all to cooperate in Forest Fire Prevention, but in so many instances people are not aware of ways and means through which their efforts will be effective. Since the California Fire Prevention Committee was founded, there has been an impressive showing of cooperation between the protection agencies, between conservation-minded organizations and agencies, between representatives of the major media, with organizations and individuals interested in the program. An outstanding example of cooperation in Forest Fire Prevention is exemplified by the California Redwood Region Conservation Council to which the lumbering industries throughout the redwood region have provided financial aid, manpower, and leadership. The Council worked closely with lumber companies, other industries, organizations and individuals, while at the same time were coordinating with the California Fire Prevention Committee and protection agencies.

A similar organization has been developed in the pine region of California through the offices of Western Pine Association and the California Forest Protective Association. That organization has been in effect only during part of one season, but it has a potential of becoming a progressive and effective supplement to the statewide Forest Fire Prevention Program.

IV. COOPERATIVE EDUCATION PROGRAM IN SOUTHERN CALIFORNIA.

(Note: A Supervisor of Conservation and Education employed by the Division of Forestry serves as Coordinator of the Cooperative Forest Fire Prevention Program in Southern California.)

The Forest Fire Prevention Program in Southern California for 1952 was, as in previous years, a highly cooperative venture. All interested in this field again pooled resources and ideas to gain the common objective. Despite an extremely heavy growth of grass following last winter's above normal rainfall, fire occurrence was below the last five-year average. To be able to accomplish this, despite a great increase in wildland use, speaks well for the assistance we have received

from our many cooperators.

PRESS.

As indicated by press clippings, excellent cooperation was received in editorials, news releases, and use of advertising mats. The release of a modified Fire Danger Index by the Weather Bureau over the news circuits has helped the prevention program during periods of high fire hazard. Clippings of the "Smokey Says" column, as started and used so successfully in San Diego County, were forwarded to other Forest Agencies, many of which are now using this column very effectively in their local newspapers. Many cooperative fire prevention releases were obtained in the Los Angeles area through planning by Los Angeles City, Los Angeles County, U.S. Forest Service, and State fire prevention representatives.

RADIO AND TELEVISION.

Two spot announcements per week were again prepared for forwarding through the Conservation Association of Southern California to the approximately 61 members of the Southern California Broadcasters' Association. Weekend weather forecasts were also submitted by the Conservation Association to the radio stations in the Los Angeles area. These spot announcements and forecasts were used quite extensively. This year, in addition to submitting the spot announcements to the radio stations, they were also submitted to the television stations and were used in conjunction with newscasts, station breaks, etc. Many stations then requested additional slides and flip cards to be used in conjunction with the announcements. These were provided and resulted in very good coverage. Program directors, film directors, newscasters, spot casters, and, in fact, almost every phase of radio and television was approached for cooperation. The result has been tremendous and has probably done more to further our fire prevention education program than any other single source. Three 30-second and one 4½-minute television films produced under the direction of the California Division of Forestry were supplied all stations. In addition to these, a 4½-minute television short subject with Eddy Arnold singing the new "Smokey Bear Song" was produced by the National Cooperative Fire Prevention

Program and released to all television stations. On the "Jump Jump of Holiday House" television program, a Smokey Bear hand puppet was made and used very effectively with other show characters on their live telecast. A special song was written for this show combining "Smokey" the Forest Fire Prevention Bear and "Sparky" The Home Fire Prevention Dog. Some of the additional shows participating were: Art Linkletter, Johnny Dugan, Bill Gwinn, "Time for Beany", Gil Martin, Chef Milani, "Mike Boy's Kitchen", Hollywood on TV, "Phantom Ranger", Timmy O'Toole Time, KFI Boy Scout Jamboree, KFI Noon Farm Reporter, and others.

MOTION PICTURES.

Three Forest Fire Prevention trailers were made this year. Two trailers made last year and carried over, and one of this year's trailers were delivered to Fox West Coast Theaters for release through them and cooperating theaters. The motion picture industry is continuing to include appropriate fire prevention actions where possible in their pictures. Bookings of prevention films from our library have continued at schools, service clubs, etc. The Eddy Arnold short subject of the "Smokey Bear" song was shown at many of the theaters, particularly those away from the metropolitan area. The motion picture industry also cooperated in furnishing clips of stock shots from their libraries of fire and flood scenes to be used in our motion picture prevention trailers.

DISTRIBUTION OF MATERIAL.

600,467 pieces of fire prevention materials were distributed through the Coordinator. This figure does not include materials forwarded from the California Fire Prevention Committee to Southern California members. Libraries and schools again cooperated in the distribution. The California Laundry Owners' Association expanded their program started last year with fifty individual laundries participating in the State with approximately 132,544 pieces of literature distributed through the Coordinator and an additional 89,274 pieces of literature in other areas. This distribution was the result of a contact made at the Laundry Owners' Association Palm Springs Annual meeting. Four hundred and two sporting goods stores were

furnished materials for distribution at their counters and display in their windows. The Kiwanis Clubs and Elks Clubs aided in distribution of literature again this year. Included in the many other cooperators were, Southern California Edison Company, California Motor Truck Association, churches and schools, Los Angeles Department of Water and Power, R.B. Harrison, Byron Jackson Company, Lancaster Junior Chamber of Commerce, Emsco Derrick and Equipment Company, Sunkist Orange Growers, Randall Motor Club, Automobile Club of Southern California, and the Essick Manufacturing Company. The Pacific Telephone and Telegraph Company was again one of the larger contributors in this field, printing their own material for display in phone booths, commercial office windows, and on trucks. (These names do not include those receiving material directly from CFPC).

ROADSIDE SIGNS AND "A" BOARDS.

Shell Oil Company and the Southern California Automobile Club were again leaders in this field.

EXHIBITS AND DISPLAYS.

Our Division, in cooperation with Los Angeles County Fire Department, U.S. Forest Service, and the Conservation Association of Southern California developed several exhibits this year. At the Los Angeles County Fair, Pomona, a beautiful forest scene was constructed and an appropriate sign displayed with "Smokey Bear" doing the talking. A fire prevention message was delivered to an estimated 900,000 people. Through the cooperation of the Los Angeles County Fair Association, the exhibit will be of a permanent nature and will necessitate only minor changes each year. At the International Flower Show at Inglewood, the three Forest Agencies again cooperated in an exhibit using the Southern California Edison Company's lighted display as a central attraction. This exhibit was viewed by an estimated 200,000 people. The Conservation Association of Southern California purchased a talking "Smokey Bear" to be used by all the agencies, and this bear was used at fairs at Orange County, Victorville, Hemet, Lancaster, Pomona, and Ventura, in addition to personal appearances at many special events. Small window displays

were arranged at many places in the metropolitan areas. Many thousands of pieces of material were distributed in conjunction with the various displays.

PRINTED FORMS AND SALES BOOKS.

Moore Business Forms, Inc., continued distribution of restaurant sales slips with a fire prevention cut on the back. This distribution included clearance of warehouse stocks from last year and an additional twelve million forms printed this year.

MISCELLANEOUS.

Many other contacts were made, including programs with the Advertising Club of Los Angeles, cooperation with the Chamber of Commerce Conservation Committee, Fire Prevention Inspectors Association, Fire Chiefs' Association, Kiwanis Club, Elks Club, American Legion, Downtown Business Men's Association, etc. Considerable work was done in introducing the new "Smokey the Bear" fire prevention song which has been released on a nationwide basis through the Cooperative Fire Prevention Campaign. The Southern California Edison Company, in addition to distributing material, printed fire prevention messages in their consumer bulletins through the summer season, as well as participating in fire prevention and conservation meetings whenever possible. Their display department again assisted in many joint exhibits. Many other firms placed fire prevention messages in their employee and consumer bulletins, one of these being the California Motor Truck Association. The West Coast Lumbermen's Association aided the program in providing materials and also loaning a section of Douglas fir with historical dates shown, to be used in our various displays. Close cooperation was obtained in the educational field through meetings with school visual aid people and those interested in the preparation of textbooks.

CONCLUSION.

Increases in population, recreational uses, area industrialization, logging, slash area, and other uses of wildlands have increased the fire risks. Fire incidence records remain more or less static in face of those increases, so it

can be assumed that some measure of success, even though the ultimate has not been reached, has resulted over a period of years from the Cooperative Forest Fire Prevention Program. In 1945 it was estimated that the incidence of man-caused forest fires was attributable on about a fifty-fifty basis to local and non-local persons. During 1951 and 1952 local persons caused 72% and non-local persons 28% of the man-caused forest fires.

The following statistical record lists locations and causal agents of the man-caused forest fires occurring in the Division of Forestry's direct protection responsibility area (Zones I and II).

Numbers	Location of Man-Caused Fires	%
584	Roadside	28.4
101	Logging and Lumbering Areas	4.9
842	Wildlands	40.9
257	Dooryards	12.5
111	Cultivated Areas	5.4
70	Railroads	3.4
33	Dumps	1.6
60	Miscellaneous	2.9
2,058		100.0

Causal Agents

329	Rancher-Farmer	16.0
214	Tenant	10.4
210	Children	10.2
481	Traveler	23.4
99	Forest Product Worker	4.8
214	Hunter	10.4
27	Fisherman	1.3
64	Recreationist	3.1
109	Railroad	5.3
311	Miscellaneous	15.1
2,058		100.0

It is from a story of these and other records that we can develop a well planned and directed 1953 Forest Fire Prevention Program.

6. LAW ENFORCEMENT.

During the 1952 fire season the Division of Forestry fire suppression forces responded to 2,058 man-caused fires in the State responsibility area. The legal aspects of these cases were resolved in the following manner:

(a) Criminal Action

Warrants of arrest were issued for 147 cases. Fines were levied by the courts for 126 cases, resulting in a total of $4,153.50. Six cases resulted in jail sentences; eight were placed on probation, and seven cases were dismissed for lack of evidence.

(b) Civil Action

Claims for recovery of suppression costs were issued for 90 cases, in the amount of $12,163.76. The individual claims were either paid in full at time of billing, or are presently in the process of being paid in monthly instalments. None of these cases required court action for settlement.

(c) Administrative Action

Where circumstances indicated that criminal or civil action would not produce the best fire prevention-education results, administrative action was used. Cases resolved through administrative action totalled 1,797.

The following table is presented for comparison with 1950-1951:

Year	Man-Caused Fires * State Responsibility Area (Zone I & II)	Criminal Cases	Civil Cases	Administrative Cases
1950	2,105	130	127	1,848
1951	1,858	124	137	1,597
1952	2,058	147	114	1,797

* Clarke-McNary forest fires plus fires occurring in non-Clarke McNary areas which are the responsibility of the Division of Forestry. Separation of Law Enforcement statistics by area or land ownership is not administratively feasible.

7. INCREASES IN APPROPRIATIONS.

Budget	Estimated 1951-52	Proposed 1952-53	Change
Support	$ 8,674,418	$ 9,038,955	$ + 364,537
Other Current Expenses	1,703,936	2,059,683	+ 355,747
Total	$ 10,378,354	$ 11,098,638	$ + 720,284
Capital Outlay	$ 613,909	938,661	$ + 324,752

Expenditures	Actual	Estimated	
Support	$ 8,321,015	$ 9,480,675	$ + 1,159,660
Other Current Expenses	1,631,635	2,044,683	+ 413,048
Total	$ 9,952,650	$ 11,525,358	$ + 1,572,708
Capital Outlay	$ 613,909	$ 938,661	$ 324,752

Support:

Salary increases in all categories plus a slight rise in equipment items account for the rise in final estimates of expenditures for the 1952-53 fiscal year over those originally proposed. For all practical purposes price variations balanced out in the operating expense codes.

The increase in estimated expenses 1952-53 over actual for 1951-52 can be accounted for as follows: $600,000 is due to increases in salaries and wages and the addition of 5 technicians in Forest Management and two new Range Improvement crews. $260,000 of the increase is due to price increases in the Operating Expense codes. $290,000 of the increase was brought about largely by an expanded replacement of automotive vehicles, the purchase of vehicles for the new positions and an increase in the purchase of radio equipment.

Other Current Expenses:

Actual expenses 1951-52 are less than estimated because only $285,000 of $320,000 appropriated for emergency fire suppression and $12,652 of the $50,000 appropriated for Pine Beetle Control were spent.

Increases in the 1952-53 over the actual expenditures for 1951-52 year are based on estimated expenditures of $35,000 for Pine Beetle and $320,000 for Emergency Fire Suppression and an increase in the allocation to the U.S. Forest Service from $498,222 to $771,376 to provide for increased protection to private lands within the U.S. Forest Service.

Allotments to the 6 independent counties increased from $601,277 to $726,307. The Cooperative Forest Land survey being completed the $42,000 expenditures do not appear in 1952-53. Therefore, net increase is $413,000.

Capital Outlay and Savings:

Increase in appropriations for Capital Outlay can be largely explained by increased appropriations for site acquisition ($15,000), an increase in the number of major construction projects and a large increase in the number of minor projects ($182,000).

8. LEGISLATION

The 1952 session of the Legislature was for consideration of the Budget only and no new legislation was passed.

9. PROGRESS MADE IN MEETING FIRE PROTECTION STANDARDS OR OBJECTIVES.

With the number of forest fires on the 19.5 million acres of Clarke-McNary lands in California held to 2,422 in 1952, the downward trend in incidence which may be traced back to 1939, continued. As has been noted previously, this trend is in an opposite direction to the population trend in California during the same period, and thus represents a measurable accomplishment in meeting a desirable objective in fire prevention.

The same trend is apparent on the 12.2 million acres of Clarke-McNary lands which are under the direct protection of the Division of Forestry, where the number of forest fires by all causes was held at 1,614 in 1952, and the number of man-caused fires was 1,442. In this segment of Clarke-McNary lands, representing 62.6 per cent of all Clarke-McNary lands in the State, it is possible to show that the downward trend in incidence of man-caused fires is even more abrupt than the trend noted above, to indicate that the necessary fire protection objective of prevention is being vigorously administered by the Division of Forestry.

Concerning the desirable objective of successful suppression activity, it is possible to report that during the year of 1952, the 83,967 acres which were burned was the smallest in recent years. Comparison of this acreage to the total protected (.43 per cent) indicates that the long term objective of reducing acreage burned to .5 percent of the area protected was exceeded. Likewise, on the 12.2 million acres protected directly by the Division of Forestry, the acreage burned,76,235 acres, approached the theoretical goal with losses held to .62 per cent of the protected area.

As noteworthy corollaries of the foregoing statements, it is pertinent to record that the 1952 average size of all fires on the 12.2 million acres under the direct protection of the Division of Forestry was held to 47.2 acres, in contrast to an average of 82.2 acres during the six preceding years, while the average size of all fires on Clarke-McNary lands in 1952 was 34.7 acres compared to a 68.0 acre average for the six preceding years.

10. COOPERATIVE AGREEMENTS FOR PROTECTION OF S & P. LANDS.

1. Clarke-McNary Land Protection

The State Forester contracts, by Cooperative Agreements, for the protection of Clarke-McNary lands with the U.S. Forest Service and six independent counties, as follows :

S & P Protected by the State	12,161,951
S & P Protected by the U.S. Forest Service	5,715,099
S & P Protected by the Independent Counties	1,623,200
Total	19,500,250

The above figures were arrived at from the 1950 Clarke-McNary Area and Cost Revision and will remain static until the 1955 A & C revision, except for U.S. Forest Service land exchanges or Pay Protection Boundary changes.

The State allots presuppression costs to the U.S. Forest Service with Clarke-McNary and State money for the protection of these lands; 13.5¢ per acre is paid at the present.

2. Federal Lands Protected by the State

Agency	Area Acres.	Method of Payment to State
Bureau of Land Management Unappr. Public Domain		
Zone I	1.268 MM	14¢/acre/year
Zone II	.548 MM	10.3¢/acre/year
Other	.330 MM	No Reimbursement
Grazing Lands		
Zones I, 2 and 3	.690 MM	Fire Cost Reimbursement
U.S. Forest Service	.181 MM	13.5¢/acre/year
Bureau of Indian Affairs	.330 MM	Fire Cost Reimbursement
Other Government	.225 MM	No Reimbursement
Total	3.572 MM	

3. Total Land Area Directly Protected by State

* Zone I and 2	.....	22,806,000
** Zone 3	.....	10,208,000

* All State, private, and intermingled federal lands which are directly protected by the State and are primary watershed or timber lands, with contiguous secondary watershed and grazing lands. (12.162 million acres are Clarke-McNary).

** Rural, agricultural, grazing and wildlands not qualifying as State Responsibility, but which are protected by the State on an actual presuppression cost basis reimbursed by the County concerned. Each county buys protection desired. Protected area differs from last year due to non-renewal by Yuba County of Schedule A. contract.